U.S. Department of Justice

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90-7-1-1

Washington, D.C. 20530

September 2, 1983

To All Companies Receiving
Notice Letters Relating
to the Midco Disposal Sites

Dear Sir or Madame:

Reference is made to my letter of August 15, 1983 to Mr. Timothy L. Harker regarding the framework under which negotiations may proceed in the Midco matter. While the United States has received several responses from individual companies expressing an interest in participating in group settlement discussions, no individual or group has undertaken to organize a generator steering committee to represent the companies in settlement negotiations. Nevertheless, in a further attempt to assist in organizing a group settlement effort, enclosed please find a package containing factual information relating to the Midco hazardous waste disposal sites. The package describes the operations of the sites, the remedial response actions and investigations which have been performed at the sites, the contaminants which have been identified at the sites, and the geology of the area. In addition, the package generally sets forth the relative volume of waste contributed to the sites by each company (by percentage).

Let me again request that all communication with the United States relating to this matter be directed to my attention. I trust that this information will further assist you in your attempts to organize a joint settlement effort.

Sincerely,

Assistant Attorney General
Land and Natural Resources
Division

By: JJ Dragna

James J. Dragna, Attorney
Environmental Enforcement
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Enclosure

cc with enclosure:

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Midco Hazardous Waste Disposal Sites

There are two Midco hazardous waste sites. One is located at 7400 W. 15th Avenue (Midco I) and the other at 5900 W. Industrial Highway in Gary, Indiana (Midco II). Both sites were initially operated by a company known as Midwest Solvent Recovery, Inc. Operations commenced at Midco I in 1975, and at Midco II began shortly thereafter. On December 21, 1976 there was a fire at Midco I which totally destroyed the operation and thousands of drums. A new corporation, Midwest Industrial Waste Disposal Company, Inc., was formed after the fire to continue the operations. In August 1977, a fire occurred at Midco II, destroying the operation and tens of thousands of drums stored on that site. Throughout the operation of the sites by both Midwest Solvent Recovery and Midwest Industrial Waste Disposal, hazardous wastes were stored and/or disposed of at both sites, depending in part upon the availability of space at either site. In the fall of 1977, Industrial Tectonics purchased the remaining assets of the Midco Corporations and leased the Midco I site. It continued operations at that site until approximately January, 1979.

The sites were allegedly operated as recycling facilities for waste solvents, however little if any recycling actually occurred. At the time Midco I was finally abandoned, it contained thousands of drums of hazardous waste, many of which were badly leaking and/or corroded, two underground tanks containing hazardous wastes, tens of thousands of burnt out drums, various

other tanks and receptacles and a ditch that allegedly contained buried waste. These surface wastes were eventually removed by U.S. EPA.

The Midco II site still contains tens of thousands of burnt-out drums, at least several hundred intact drums of hazardous wastes, including cyanides, an underground tank full of liquid wastes, several large, above-ground tanks, a large filter pit with underground piping, a large disposal ditch in the back of the property and other debris. Both sites contain other areas where wastes are believed to have been buried.

The United States filed a lawsuit on November 16, 1979 against the owners and operators of the sites and several adjoining landowners seeking clean up of the sites. On January 31, 1981 the Court granted the United States' motion for preliminary injunction in part, ordering Industrial Tectonics to proceed to clean up the waste at the Midco I site for which it was responsible and, in an order of December 4, 1981, ordering Ernest DeHart, the original operator of Midco sites, to submit and implement a clean up plan for both sites. Full clean up pursuant to the Orders was never performed.

MIDCO I & II

1. GEOLOGY AND HYDROGEOLOGY

The MIDCO I & II sites are located approximately two and one-half miles apart in an industrial section of Gary, Lake County, Indiana (fig. 1, 2). They are within the formerly glaciated Calumet Lacustrine Plain, a crescent-shaped area bordering the southern edge of Lake Michigan, which is part of the Northern Lake and Moraine Region of the Central Lowland Physiographic Province. The area, formerly being the bed of glacial Lake Chicago, is characterized by a pattern of low, narrow sand ridges and sloughs which have the same general trend as the shore of Lake Michigan.

The unconsolidated deposits above bedrock are approximately 130 to 200 feet in thickness and consist of a variety of materials including wind blown sands, fine lake sand, sand and gravel from glacial outwash, organic deposits, and glacial till deposits with high clay content.

Based on an United States Geological Survey (USGS) classification, the unconsolidated Pleistocene material of the area can be subdivided into four separate vertical units. Units one and three constitute aquifers, whereas units two and four serve as confining layers for these with unit four also being the confining layer for the bedrock aquifer. Units three and four consist of a water-bearing Pleistocene sand and an underlying confining gravelly till layer, respectively, that together average about 100 feet in thickness. The sand layer, averaging about 60 feet in thickness, forms the lower Pleistocene aquifer found throughout the area. It has a transmissivity between 10,000 to over 50,000 gallons per day per foot (gpd/ft). Unit two is a clay till layer which overlies the Pleistocene sand layer and forms a confining layer for the aquifer. It averages 45 feet in thickness and contains thin, discontinuous zones of sand and gravel.

Unit one, the surficial unit, is an unconfined aquifer which ranges to 80 feet in thickness but has an average thickness of about 35 feet. It consists of deposits of fine to coarse sands, having some gravel, in beach and dunal areas and finer sands overlain by clay and organic deposits in the low depressional areas. Within these deposits, the water table is found to have a seasonal fluctuation and occur from about five to seven feet below the surface of the ground. The transmissivity of the unit ranges from less than 5,000 to approximately 30,000 gpd/ft. The hydraulic conductivity ranges from 60 to 1,000 gpd/ft^2 and averages about 450 gpd/ft^2. Based on averages for hydraulic conductivity and saturated thickness for the unit, the USGS calculates the regional value for transmissivity to be about 15,000 gpd/ft.

The surface soils of the area have mostly been disturbed through urbanization, however, native soils found in the area

belong to the Oakville - Tawas association. The Oakville soils of the dunal ridges have very high permeabilities (over 20 inches per hour or 1.2 x 10^{-2} cm/sec), whereas the Tawas soils found in the depressional areas have lower permeabilities (generally 0.6 to 2.0 inches per hour or 4.2 x 10^{-4} to 1.4 x 10^{-3} cm/sec).

Bedrock beneath the unconsolidated materials consists of Silurian dolomites with minor amounts of limestones and shales. They comprise a major aquifer of the region.

2. INVESTIGATIONS COMPLETED AT THE SITES

MIDCO I --

In an initial investigation, piezometers with well points were driven at six locations around the periphery of the fenced drum storage area to determine ground-water levels and flow direction. Four monitoring wells were installed and ground-water samples taken for water quality data. Soil samples for analysis were collected at regular intervals during the installation of the monitoring wells. Surface water samples for analysis were collected at two locations.

In a later investigation, six additional monitoring wells were installed to better define the ground-water quality. Soil samples were not taken.

Monitoring well and sampling locations are shown in figure 3.

MIDCO II --

The initial investigation consisted of driving three piezometers with well points to obtain ground-water flow data. Five monitoring wells were installed to determine ground-water quality and soil samples for analysis were taken at regular invervals. Two surface water samples for analysis were taken.

An additional six monitoring wells were emplaced to provide supplemental ground-water quality data. Soils samples for analysis were also taken at regular invervals during the installation of these wells.

Monitoring well and sampling locations are shown in figure 4.

3. CONTAMINANTS IDENTIFIED AT SITES.

A listing of the major inorganic and organic chemical contaminants found in the ground water, surface water and soils at each site is attached.

4. OBJECTIVES FOR GROUNDWATER AND SOIL CONTAMINATION, AND REMEDIAL ACTION ASSESSMENT OF THE MIDCO SITES.

The surface water, ground water and soil investigations performed to date at the Midco sites have identified substantial contamination at the sites. Further study is needed however, to fully characterize the nature and extent of contamination and to design and select a remedial alternative. The following are general objectives for such a study.

OBJECTIVE I --

Conduct a ground water and soils investigation at the Midco sites which, at a minimum, accomplishes the following:

A. Reviews and evaluates all available information on the regional and local hydrodynamic settings which can affect or are affected by the contaminants originating from the Midco sites.

B. Provides sufficient information to determine the vertical and lateral extent of ground water and soil contamination originating from the sites and extending off-site.

C. Defines the specific constituents and their concentrations that comprise the contaminated area.

D. Provides sufficient information to determine the rates and directions of ground water and contaminant migration and identifies the probable discharge points for the contaminant plume(s) defined in paragraph B above.

E. Provides sufficient information on the hydraulic and stratigraphic characteristics of the contaminated portions of the aquifer and overlying soils as defined in paragraph B to permit design of an effective ground water and soil contamination abatement program at the Midco sites.

OBJECTIVE II --

Design a remedial program which at a minimum, accomplishes the following:

A. Removes or permanently isolates all contaminated soils, chemical wastes or other sources of contaminants on or around the Midco sites.

B. Removes or permanently isolates contaminated ground water located beneath and surrounding the Midco sites.

C. Recovers all contaminated ground water which has migrated away from the Midco sites.

D. Provides for a ground water monitoring system, which will track progress toward and ensure completion of the remedial program.

Examples of remedial alternatives which should be considered are:

- Installation and operation of a ground water recovery, treatment, and disposal system
- Excavation of contaminated soil
- Capping and grading the site with low permeability materials
- Installation of ground water barriers

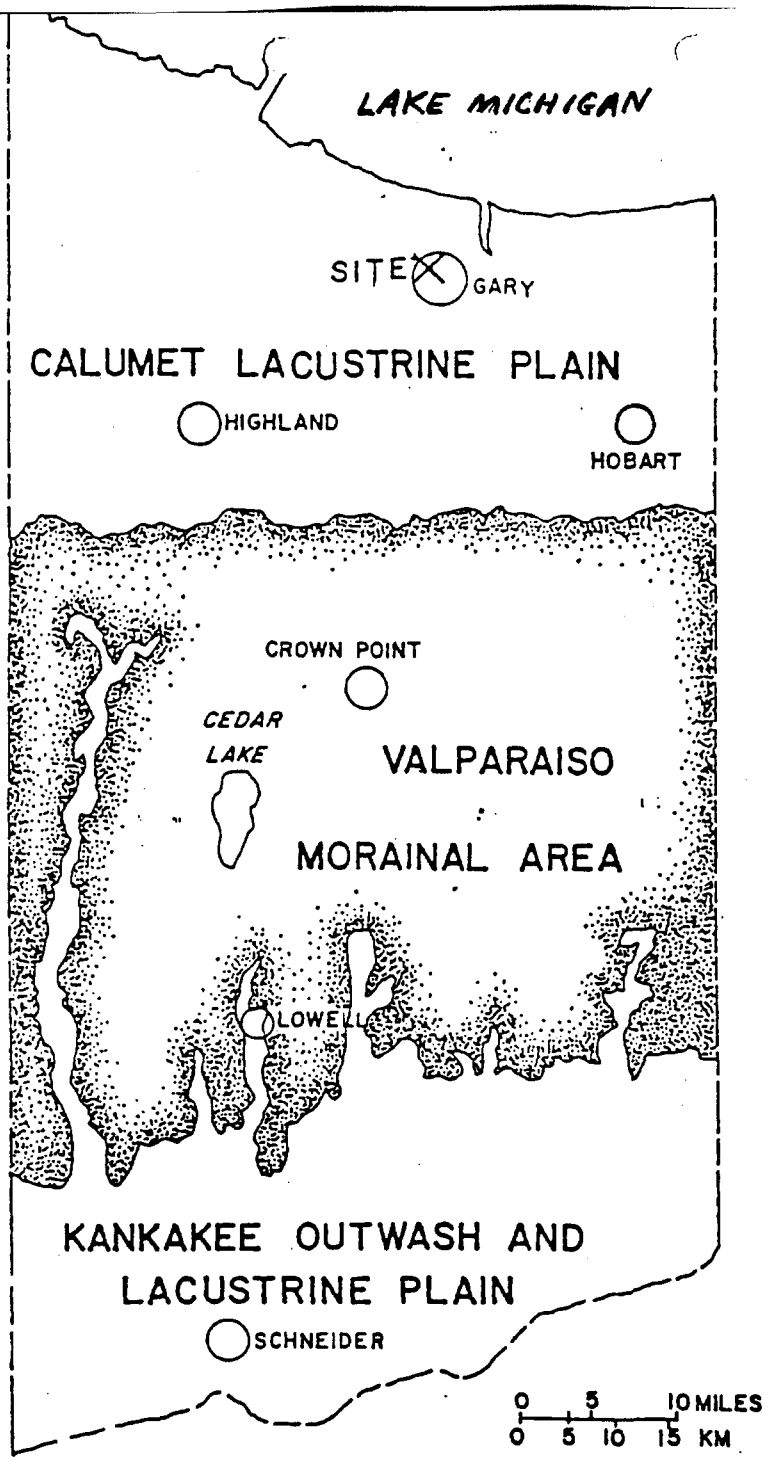

Figure 1. Physiographic units of Lake County.

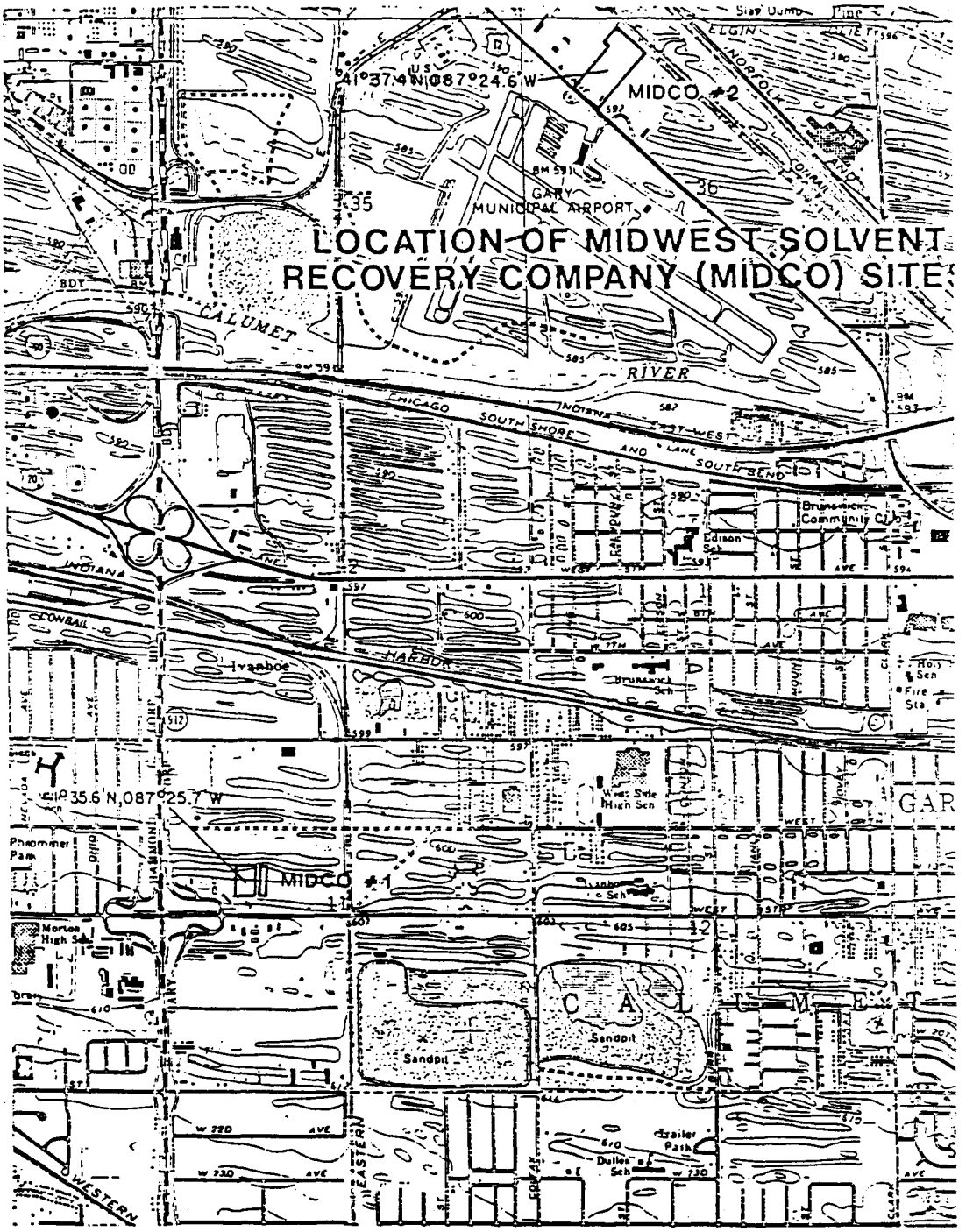
LOCATION OF MIDWEST SOLVENT
RECOVERY COMPANY (MIDCO) SITE
41°37.4'N 087°24.6'W
MIDCO #2
GARY MUNICIPAL AIRPORT
35
36
CALUMET
RIVER
CHICAGO SOUTH SHORE AND SOUTH BEND
INDIANA
Ivanhoe
HAEBOR
41°35.6'N,087°25.7'W
MIDCO #1
Sandpit
Sandpit
CALUMET
WESTERN
EASTERN

FIGURE 2.

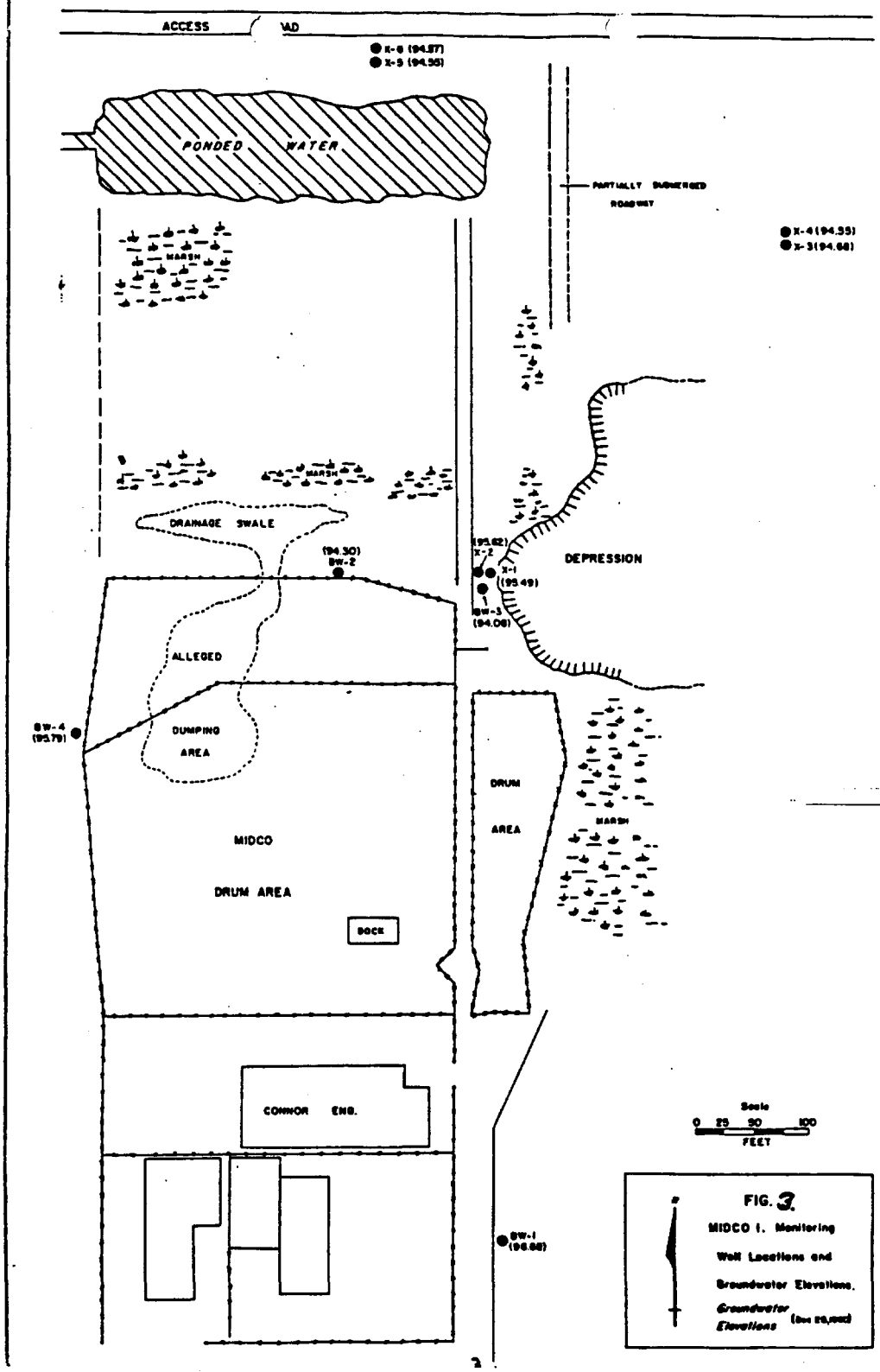

FIG. 3.

MIDCO I. Monitoring Well Locations and Groundwater Elevations.

Groundwater Elevations (Dec 29, 1982)

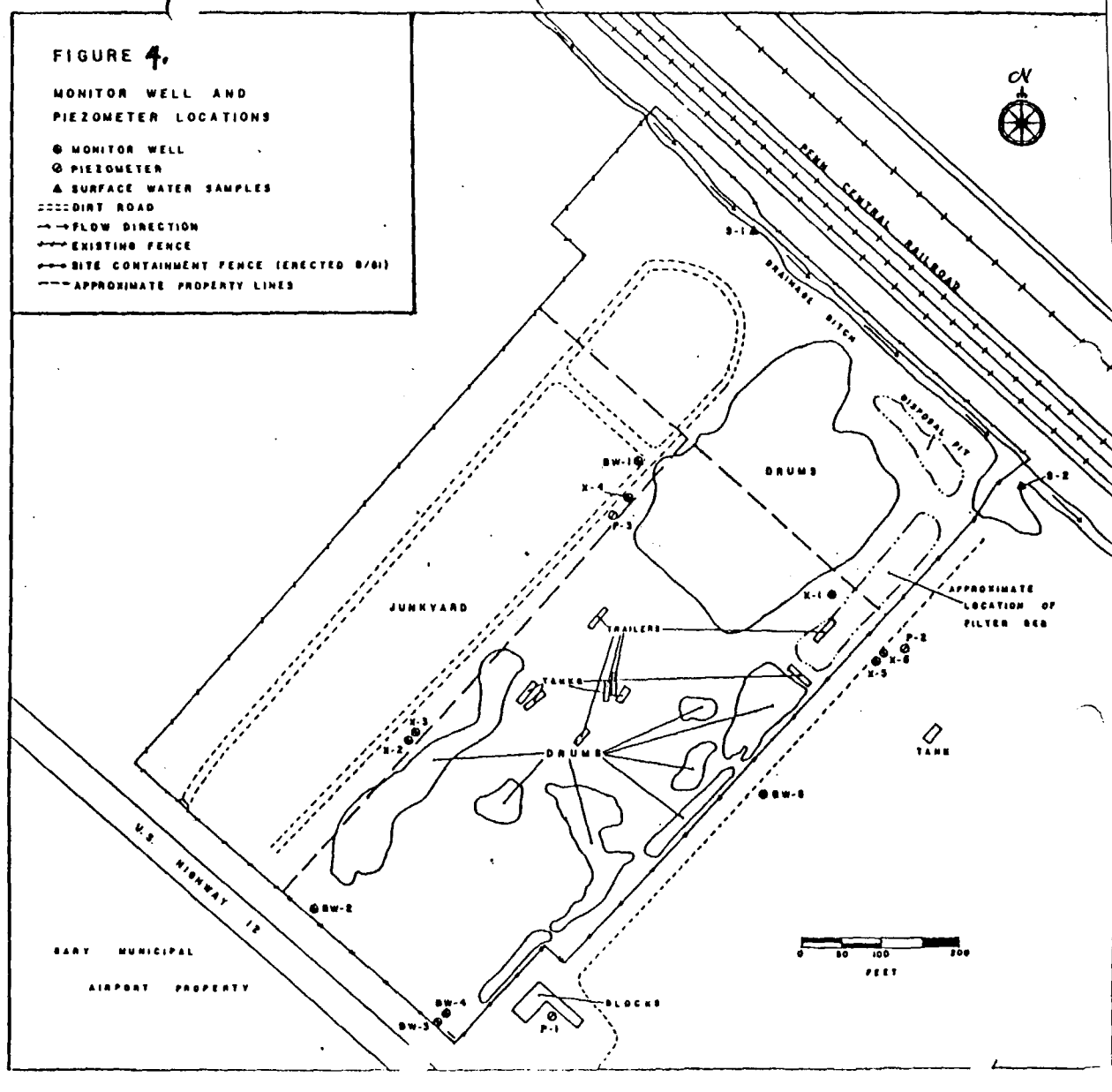
FIGURE 4.
MONITOR WELL AND
PIEZOMETER LOCATIONS
MONITOR WELL
PIEZOMETER
SURFACE WATER SAMPLES
DIRT ROAD
FLOW DIRECTION
EXISTING FENCE
SITE CONTAINMENT FENCE (ERECTED 8/81)
APPROXIMATE PROPERTY LINES
PENN CENTRAL RAILROAD
DRAINAGE DITCH
DISPOSAL PIT
DRUMS
JUNKYARD
TRAILERS
TANKS
APPROXIMATE LOCATION OF FILTER BED
TANK
BLOCKS
U.S. HIGHWAY 12
GARY MUNICIPAL AIRPORT PROPERTY
BW-1
BW-2
BW-3
BW-4
BW-5
BW-6
P-1
P-2
P-3
X-1
X-2
X-3
X-4
X-5
X-6
S-1
S-2
N
0
50
100
200
FEET

Organic Chemicals (Cont'd)	Ground Water		Surface Water		Soils	
	Midco I	Midco II	Midco I	Midco II	Midco I	Midco I
Pyrene	x	x				x
Benzo (a) pyrene	x					
Acetone		x		x		x
2-butanone		x		x		x
4-methyl-2-pentanone		x		x		x
O-xylene		x		x		x
Benzoic acid		x				
1,1,1-trichloroethylene		x				x
Benzene	x	x	x			
Nitrobenzene		x				
4-methylphenol		x				
4-nitrophenol		x				
1,1,1-trichloroethane				x		
Chlorobenzene	x	x				
2,4-dimethylphenol	x	x	x	x		
2,4-dichlorophenol		x				
Phenol	x	x	x	x		
Pentachlorophenol	x	x				
2-methylphenol		x				
2-methylnaphthanene		x				x
1,1-dichloroethane	x	x	x			
1,2-dichloroethane		x				
1,1-dichloroethylene		x				
1,2-trans-dichloroethylene	x	x	x			
1,2-dichloropropane		x				
1,3-dichloropropylene	x					
Bis (2-chloroethyl) ether	x		x			
Chloroform		x				x
Vinyl chloride		x				
PCB - 1016	x					
PCB - 1232						x
PCB - 1242	x				x	x
PCB - 1248			x			
PCB - 1254	x					
PCB - 1260		x				

Numerous other organic chemicals have been tentatively identified.

Analyses for the same chemical have not necessarily been made all samples from the various media.

MIDCO I & II CONTAMINANTS

	Ground Water		Surface Water		Soils	
	Midco I	Midco II	Midco I	Midco II	Midco I	Midco II
Inorganic Chemicals						
Aluminum	x	x	x		x	x
Antimony		x				
Arsenic	x	x	x		x	x
Barium	x	x	x	x	x	x
Beryllium	x		x			x
Boron	x	x	x	x		x
Cadmium	x	x	x			x
Chromium	x	x	x		x	x
Cobalt	x		x			
Copper	x	x	x		x	x
Cyanide	x	x	x		x	x
Gold				x		
Iron	x	x	x	x	x	x
Lead	x	x	x		x	x
Lithium			x			
Manganese	x	x	x	x	x	x
Mercury					x	
Nickel	x	x	x		x	x
Selenium	x				x	
Silver	x	x			x	
Strontium			x			
Thallium	x					
Tin	x	x	x			x
Titanium			x			
Vanadium			x			x
Yttrium			x			
Zinc	x	x	x	x	x	x
Organic Chemicals						
Ethylbenzene	x	x	x			x
Methyl chlorid	x	x	x	x	x	x
Toluene	x	x	x	x	x	x
Fluoranthene	x	x				x
3,4-benzofluoranthene						x
Benzo (k) fluoranthene	x					
Isophorone	x	x	x	x		x
Acenaphthylene		x				
Napthalene	x	x				x
N-nitrosodiphenylamine						x
Bis (2-ethylhexyl) pthalate	x	x		x		x
Diethyl phthalate	x	x				x
Di-n-butyl phthalate		x				x
Di-n oxyl phthalate		x				x
Butyl benzyl phthalate		x				
Chrysene	x	x				
Anthracene		x				
Phenanthrene		x				x

GENERATOR VOLUMETRIC CONTRIBUTIONS */

Percentage of the Total Volume of Wastes Sent to the Midco Hazardous Wastes Sites per Generator

2% - 20%	1.	Zenith Radio Corporation
	2.	Standard T. Chemical Company, Inc.
	3.	Rust-Oleum Corporation
	4.	DeSoto Chemical, Incorporated
	5.	Enterprise Paint Manufacturing Company
	6.	Approved Industrial Removal
	7.	U.S. Steel Corporation
	8.	Pre Finish Metals, Incorporated
	9.	J.M. Huber Corporation
	10.	American Can Company
	11.	Rozema Industrial Waste
	12.	Liquid Waste Incorporated
	13.	Uniroyal, Incorporated
	14.	Ashland Chemical
	15.	Calumet Container
.50% - 1.99%	1.	Premier Paint and Varnish Company
	2.	Morton Chemical, Division Morton Norwich
	3.	Liquid Dynamics
	4.	Cargil, Incorporated
	5.	Continental Can Company; Tee-pak, Division of Continental Can
	6.	Lansing Services
	7.	Chemalloy
	8.	Scholle
	9.	Hydrite Chemical
	10.	By Products Management
	11.	Ethicon, Incorporated
	12.	Accutronics
	13.	Triple S. Etchants
	14.	Ekco Houseware Company
	15.	Speciality Coatings Incorporated
	16.	Star Trucking

*/ These figures are rough approximations of percentage of waste to the Midco Hazardous Waste Sites by generator based upon invoices, pick-up tickets, bills of lading and other shipping information obtained from the owners and operators of the Midco disposal sites. These figures are submitted for the purpose of negotiation only. They do not represent any allocation or apportionment of harm or contribution to any endangerment which may be presented at the Midco Hazardous Wastes Sites by any generator.

Less than .50%

1. American Rivet
2. Apeco
3. Armour Pharmaceutical Company
4. Artisan Hand Prints
5. Butler Speciality Company
6. Chicago Etching
7. Chicago Nameplate
8. The City of Gary, Indiana
9. C.P. Clair
10. C.P. Inorganics
11. Dobson Construction
12. DuPage County
13. El-Pac
14. Embosograph
15. Esskay
16. Furnas Electric
17. Gearmaster
18. Gilbert & Bennett
19. Dap, Inc.
20. Stuart Chemical
21. United Resin Adhesives
22. Barr & Miles Trucking
23. Connor Forest Products
24. Conversions by Gerring
25. Henry Pratt
26. Knaack
27. Masonite
28. Shield Coatings
29. Stern Electronics; Universal Research
30. Consumer Paint Company
31. United Resin
32. Active Service Corp.
33. American Nameplate and Decorating Company
34. America Printer and Lithographer
35. Belden Corporation
36. Bretford Manufacturing, Inc.
37. C & C Maintenance
38. C.P. Hall Company
39. Chicago Rotoprint (Mobil)
40. Crown Cork and Seal Co., Inc.
41. Culligan Water Conditioning
42. Deublin Company
43. Dutone Corporation
44. DuoFast Corporation
45. Felt Products Manfucaturing Company
46. Flint Ink Corp.
47. GLD Liquid Disposal
48. Intaglio Service
49. Interstate Pollution Control
50. McWharter Chemical Company

51. J & S Tinmill Products Company, Inc.
52. Metal Reclaiming Corporation
53. Metropolitan Circuits
54. Midwest Recycling Company
55. Motorola, Incorporated
56. Mr. Frank, Incorporated
57. Namsco, Incorporated
58. Naz-Dar Company
59. Pierce/Stevens Chemical Corp.
60. Reflector Hardware Corporation
61. Reliance Universal, Incorporated
62. Richardson Graphics
63. Skil Corporation
64. St. Charles Manufacturing Co.
65. Syntech Waste Treatment Center
66. United States Envelope
67. Velsicol Chemical Corporation
68. Warner Electric & Clutch Company
69. Xerox Corporation

REMEDIAL RESPONSE ACTION

1. Surface Wastes at Midco I - Remedial response actions at Midco I commenced on February 26, 1982 and were completed on July 7, 1982. Work under the contract was divided into three phases: Phase I was the removal of all burnt drums and tanks; Phase II involved sampling, bulking and removal of liquid wastes; Phase III consisted of the removal of approximately one foot of soil from the site and capping the site with clay. Total cost of this removal action was approximately $900,000.

2. Fencing at Midco I and II - U.S. EPA installed a security fence around the periphery of the Midco sites at a total cost of approximately $24,000.